

# Compaction Mitigation

Jeremy Balousek, P.E.

Dane County Land Conservation  
Department

















Active Construction samples

Pre-construction sample



# Plot Treatments

- Control – plot only seeded and mulched.
- Deep till – plot deep tilled 3 feet deep, 5 foot spacing.
- Chisel plow – plot deep tilled and chisel plowed 12 inches deep.
- Compost – plot deep tilled, chisel plowed, and 3 inches of compost amended to topsoil.

































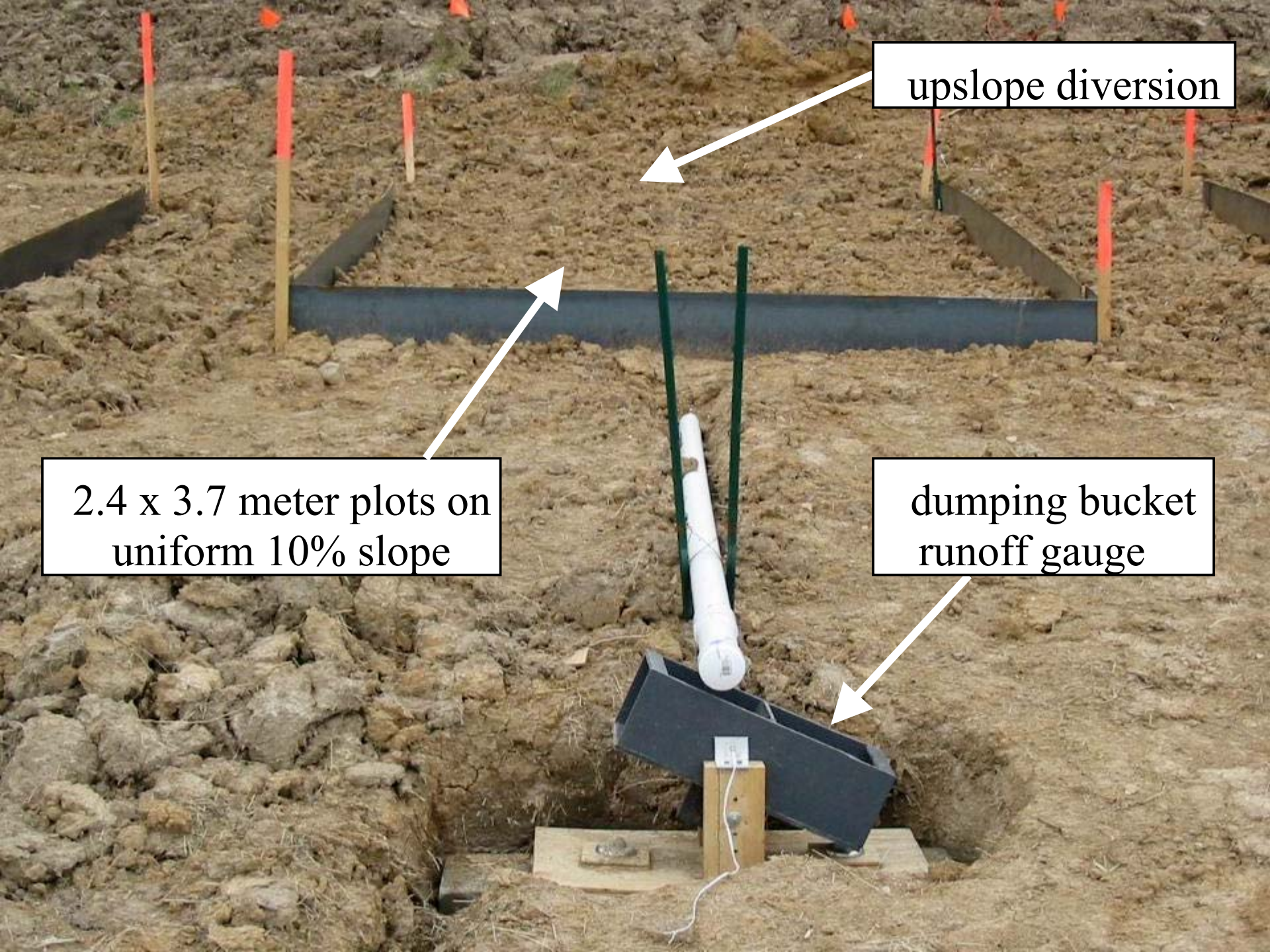












upslope diversion

2.4 x 3.7 meter plots on  
uniform 10% slope

dumping bucket  
runoff gauge





Seeded and Mulched (6-10-02)





7-12-02, 32 Days

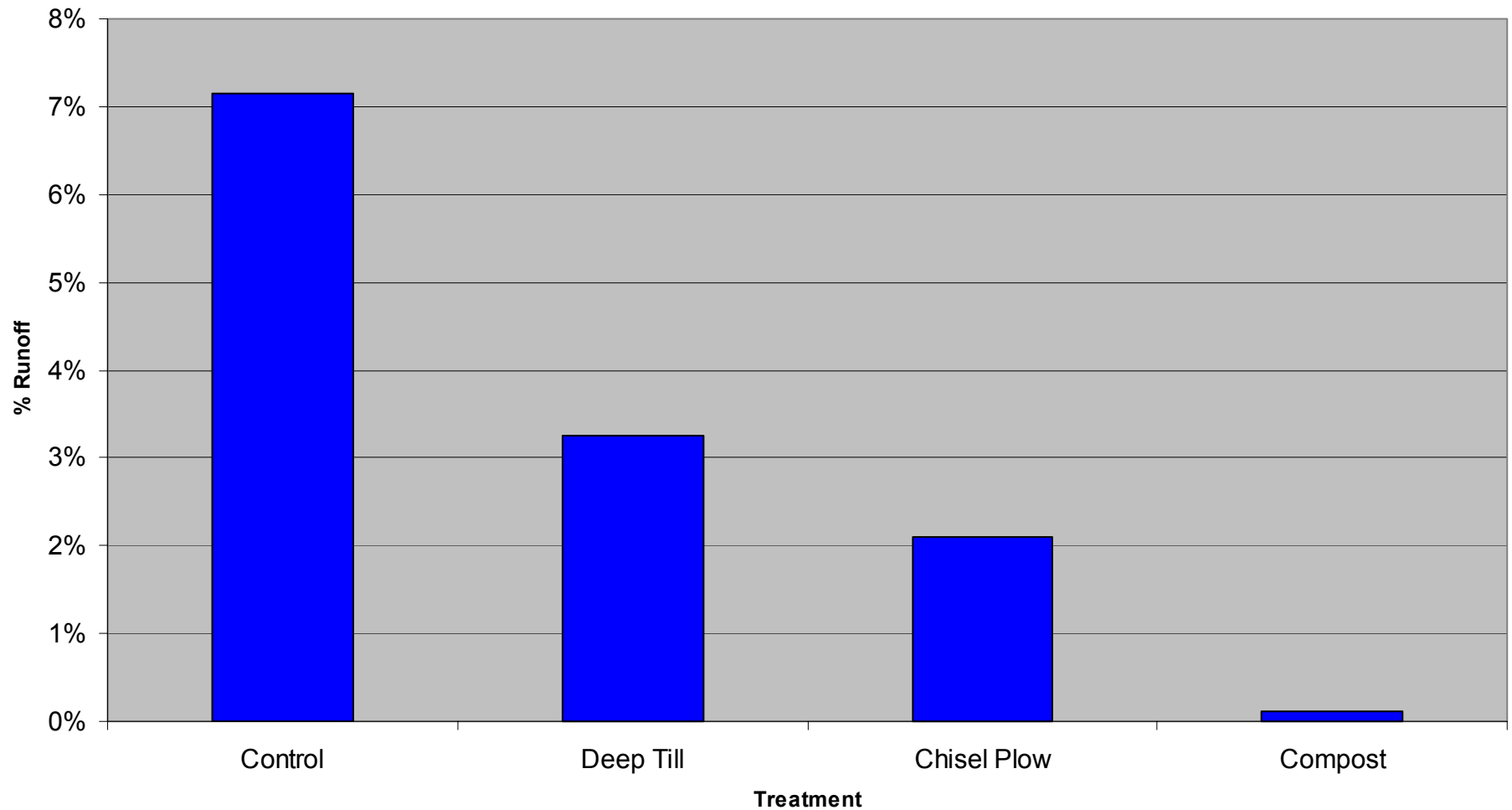


# Simulated Rainfall Event

- 2.2 inches of precipitation
- 30 minute duration
- 46 Days after seeding (July 26<sup>th</sup>)
- Applied by sprinkler

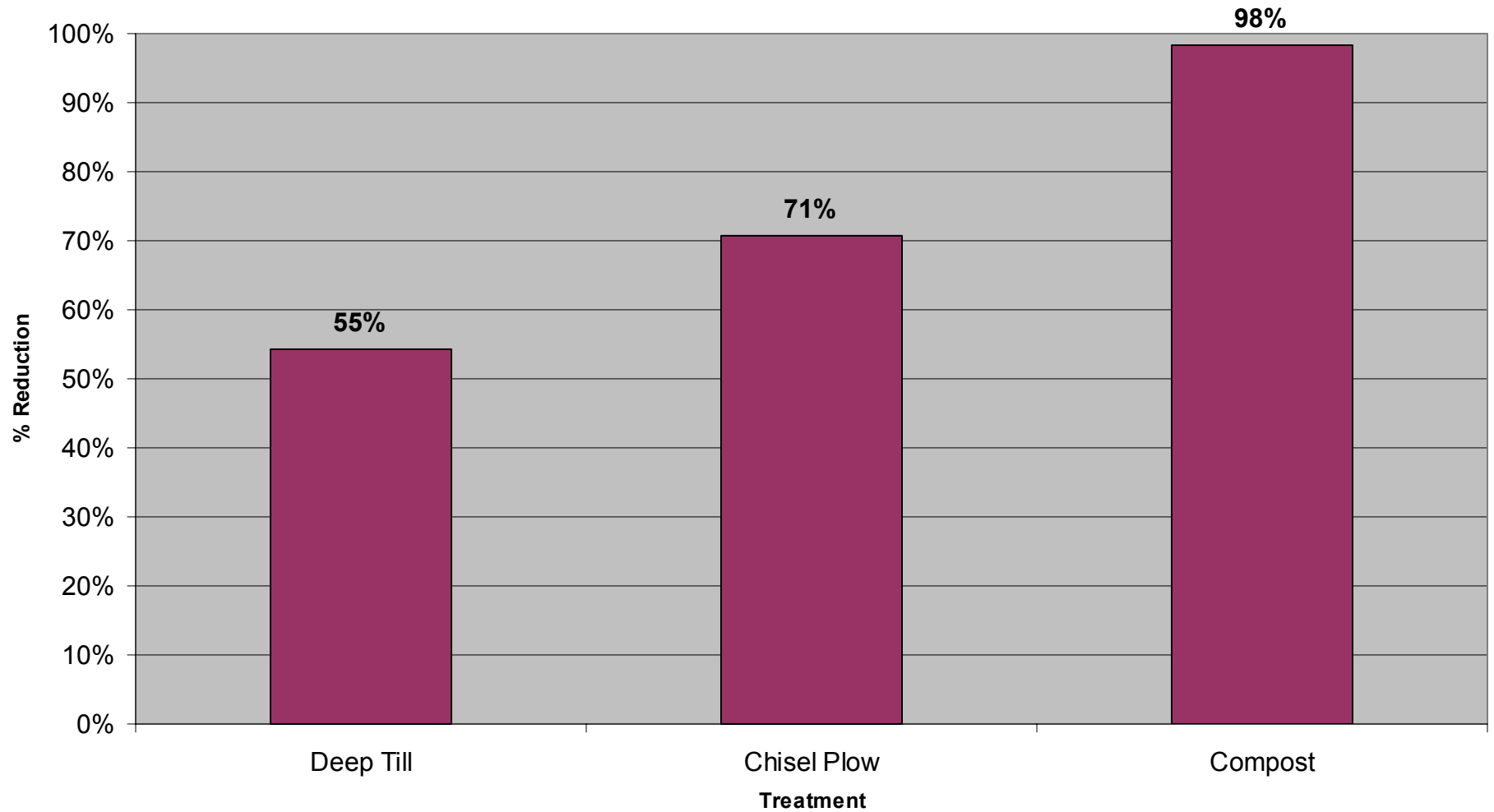


# Average Percent Runoff





# Percent Reduction in Runoff



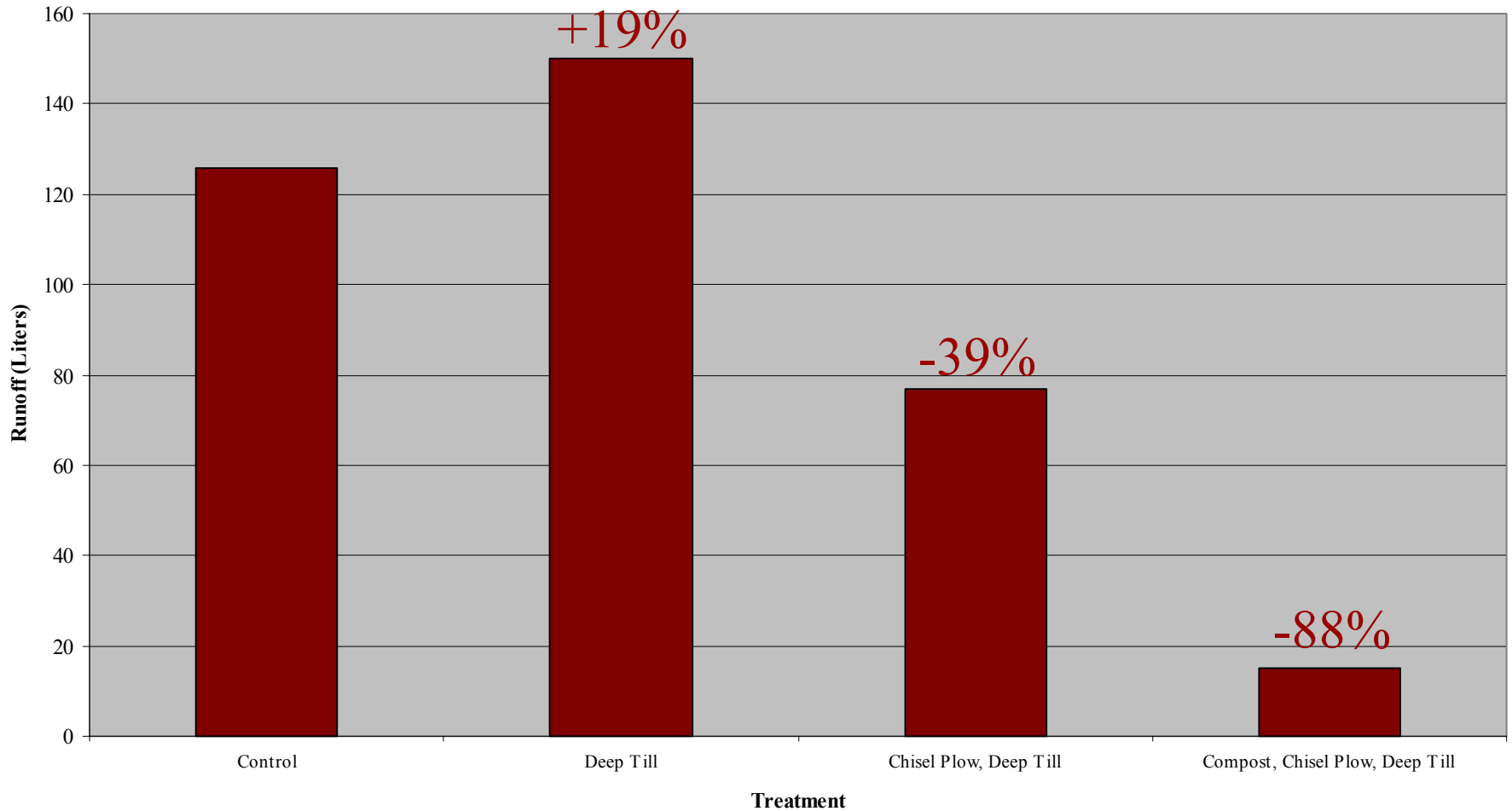


# Runoff Results from Natural Precipitation

16 storm events that produced runoff.

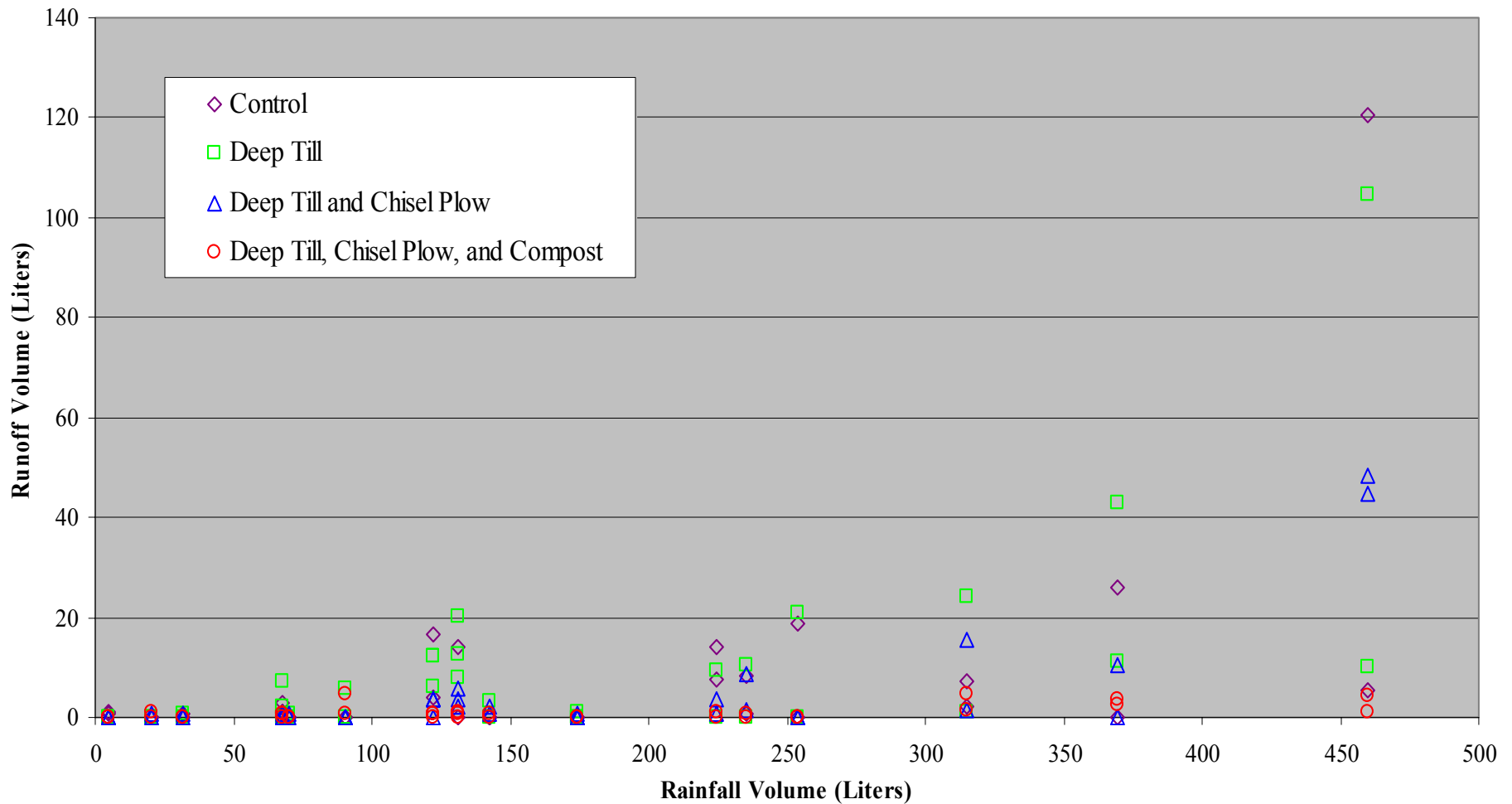


# Cumulative Runoff



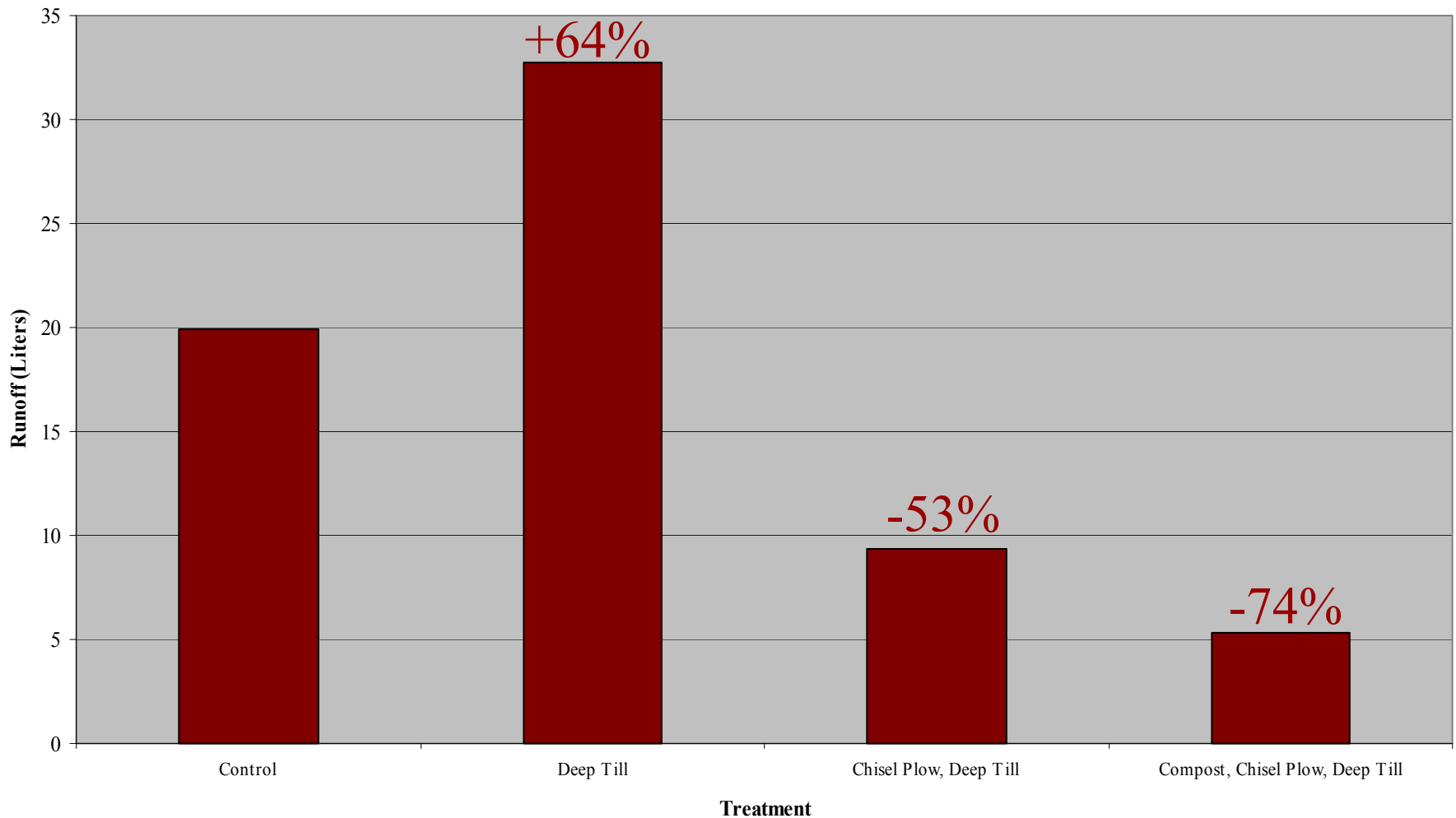


# Rainfall Versus Runoff



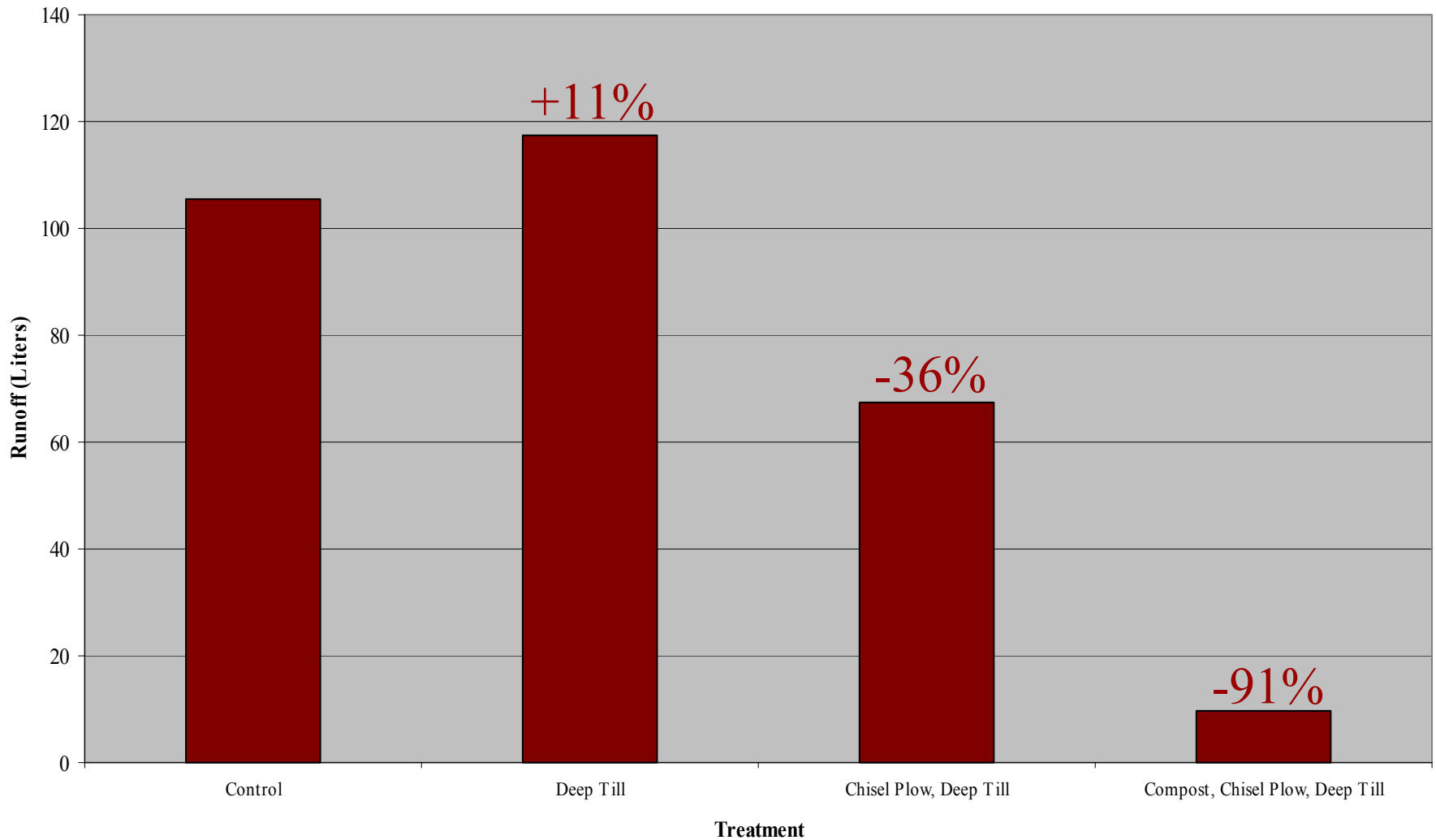


# Small Storm Cumulative Runoff





# Large Storm Cumulative Runoff







D7H











No Treatment



Deep Tilled



6-18-02, 8 Days

Chisel Plowed



Compost

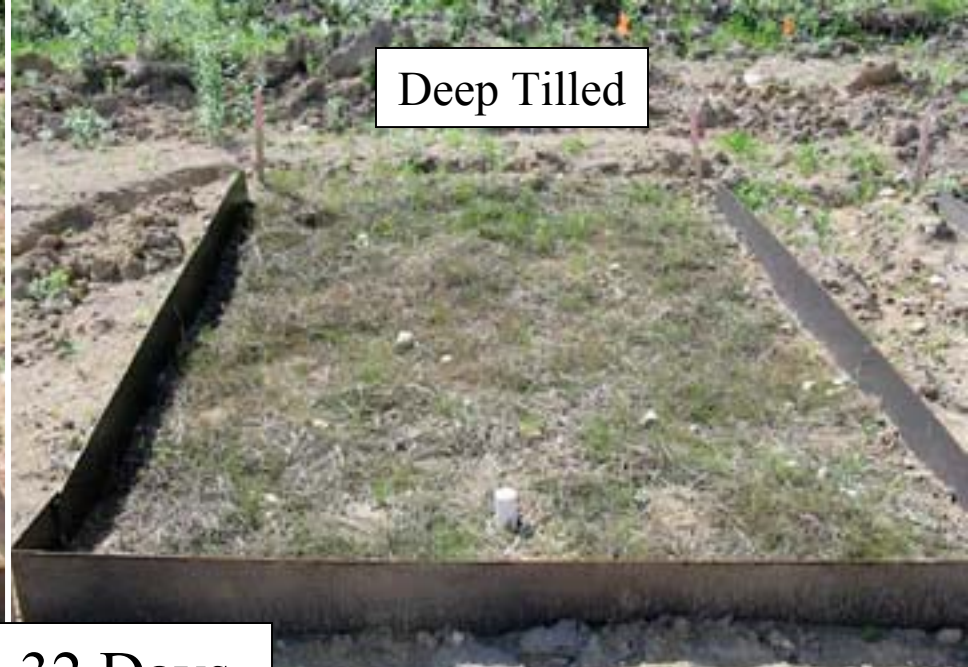




No Treatment



Deep Tilled



7-12-02, 32 Days

Chisel Plowed



Compost

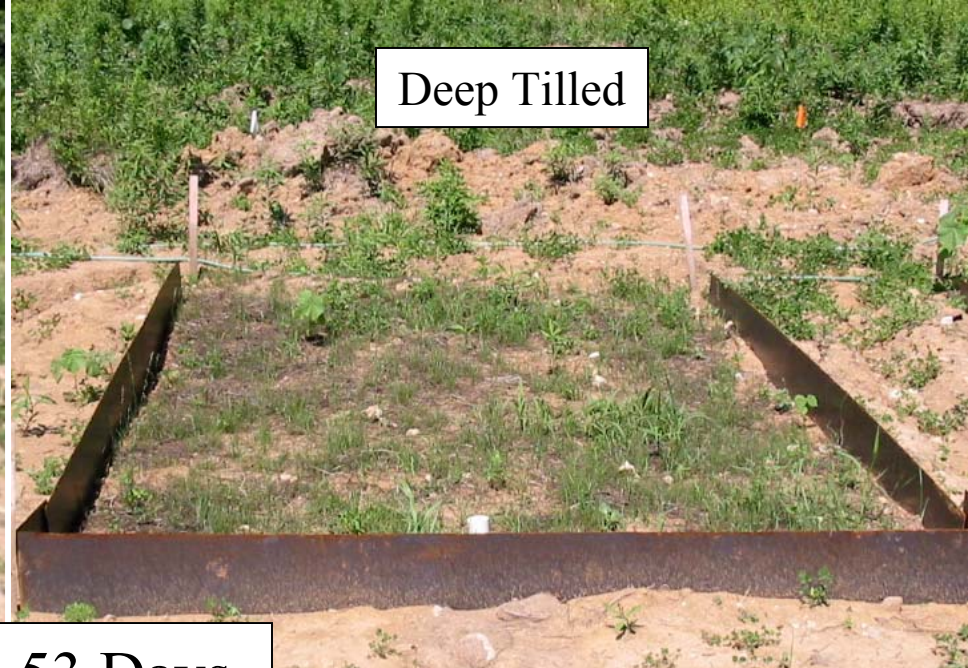




No Treatment



Deep Tilled



8-02-02, 53 Days

Chisel Plowed



Compost







9-9-02, 90 Days



# Summary of Research

- Results are showing benefits of deep tilling and chisel plowing and deep tilling, chisel plowing, compost amendment.
- Deep tilling alone produced more runoff. This may be due to ripper configuration or soil conditions.



# Use Certified Compost

- Ensures weed seeds are killed.
- Prevents the spread of diseases, including Oak Wilt.
- WDNR Specification S100



















































Questions?